

and other fluids without its presence being indicated, or any change of colour effected by nitric acid in the ordinary way of applying this test. He states, however, that if any fluid in which bile exists, contains a portion of albumen, the nitric acid, by coagulating the albumen, will detect the smallest possible quantity of bile, for the coagulum assumes at once either a bluish, or perfectly blue, or a greenish colour, and if the bile exists in large quantity the coagulated albumen will accordingly assume a green, and then a reddish colour. In pursuing this mode of testing for the presence of bile, Heller recommends that to the suspected fluid, say urine, a considerable excess of strong nitric acid is to be added, and should there be produced by this means none of the ordinary colours indicative of the presence of bile, then that to another portion of the fluid some albumen dissolved in water (serum of blood, if at hand) is to be added, and well mixed; a little nitric acid is now to be poured into the mixture, which, after being stirred up, is to be left at rest for the albuminous precipitate to form: if bile be present, this precipitate of coagulated albumen presents a bluish or greenish-blue colour, but if it be not, then the coagulum is simply white (though, after a time, it assumes a yellowish tint, owing to the action of the nitric acid, but this is quite independent of the presence of bile). Thus, therefore, the simplest plan to detect bile in a non-albuminous fluid consists in making the fluid albuminous, and then treating it with nitric acid; should blood be the fluid requiring to be tested, nitric acid may be added at once to the serum, which contains albumen in abundance.

The microscope is capable of still further improving upon this mode of procedure, and of rendering this test applicable in cases where the suspected fluid is too small in quantity to be examined satisfactorily in an ordinary test-tube; for this purpose, Donné\* recommends that a drop of the suspected fluid be placed between two slips of glass, and a little nitric acid added whilst the object is beneath the microscope; immediately upon the acid coming in contact with the fluid the characteristic colours are struck, should bile be present. In this way Donné was enabled to determine that an abscess communicated with the intestine, by simply examining a drop of the pus discharged.—*Ibid.*

11. *Mode of detecting Morbid Bile.*—In some diseases, however, as in cholera, &c., Dr. Heller has found that the colouring matter of bile may undergo a very considerable morbid change, in consequence of which, when treated with nitric acid, it assumes at once a red instead of a green colour. He has found that for bile which has undergone this change ammonia is a better and a more certain test than nitric acid, for although this latter reagent will detect it when in any abundance, yet it is apt to prove deceptive in cases where urine is the fluid undergoing examination, especially if much hæmatosine be present, which substance becomes more or less red by nitric acid. In using the ammonia test, a small quantity only should be at first dropped in, immediately upon doing which a bright red colour is struck; more of the ammonia may then be added until a reddish-brown fluid is obtained. In this way it is possible to detect the presence of a very minute quantity of altered bile pigment, even when nitric acid fails to afford the smallest evidence of its existence.—*Ibid.*

## MATERIA MEDICA AND PHARMACY.

12. *Therapeutic Properties of Veratrine and Strychnine.*—Dr. F. A. GEBHARD, of Moscow, has published an interesting paper on Veratrine studied comparatively with Strychnine, in Dr. Szerlecki's *Zeitschrift für Therapie und Pharmakodynamik*. An abstract of its contents is presented in the following summary:—

The experiments of Magendie and Andral prove the incredible rapidity with which strychnine is absorbed; those of Verrière and Segalas show that it may be actually detected in the blood, which is changed by its admixture with it; and post-mortem examinations disclose marked bloody infiltrations, turgidness of the veins, apoplexy, congestion, and even appearances of inflammation. Its primary

effects, in small doses, are irritating and exciting; it appearing, at the same time, by its bitter principle, to improve the digestion, and unquestionably, in certain kinds of chronic diarrhoea, to be very useful. Yet the continued employment of strychnine in small doses, or even its administration in larger ones from the commencement, appears to cause, in some unknown manner, such a change in the blood as to result unexpectedly and suddenly in a powerful reaction on the nervous system, manifested by convulsions, tetanus, exhaustion, paralysis and death. In paralysis of the motor nerves, it has often been of great advantage, without having any effect upon any organ of secretion or of excretion; but in neuralgia, in which M. G. formerly employed it internally and externally, it gives no relief; while in many other diseases, as cramps and convulsions, it has been employed without success. Under these circumstances, and in view of the dangerous effects it often produces, M. G. thinks that some other remedy should be sought for even in those cases in which it has proved advantageous. The remedy which he proposes to substitute is veratrine. Of this he speaks, in substance, as follows:—In small doses, administered internally, veratrine occasions peculiar pricking, stinging sensations, like those of electricity, in the extremities, shoulders, &c., followed by composing effects upon the portions of nerves affected with neuralgia, and somewhat after, with nausea, salivation, vomiting, flow of urine and diarrhoea. It ought also to favour the menstrual evacuation. Rubbed in externally, peculiar sensations of the skin are also excited by it, which reach, by means of the reflex action, upon other nerves under the influence of the spinal cord. M. G. does not believe that veratrine acts first through the blood, but, it appears to him, by the immediate specific irritations from the part to which it is applied, at one time by reflex action through the spinal marrow, at another by irradiation and the laws of contiguity, without reference to the relation of tissue and function, and to the known connection between nerves and blood-vessels, to cause an uniform excitement and distribution of the nervous powers, and thus to remove the symptoms of pain and paralysis—as we see after rubbing it in upon the back or over the region of the heart, the strongest nervous palpitations, pain, convulsive cough, and nervous pains of all kinds allayed; and in the same manner, absorption (in cases of dropsy) favoured, and in many cases the urine evidently increased.

The indications for its employment are pain, cramp, effusion and paralysis, the result either of effusion or of exhaustion. The chief contra-indications are, increased activity of the circulation, fever, inflammations in general. Against its internal administration are, *gastricismus* and organic disease of the intestinal canal. A great degree of torpor and of weakness does not prevent its employment, as it animates, especially when rubbed in, the sunken and irregular nervous action by the excitement it produces, without directly affecting the blood, in consequence of which strychnine is so dangerous. Care must be taken, however, not to employ it externally in marked inflammatory turgescence of the skin, and especially in certain erysipelatous, herpetic dispositions, &c., which so often manifest themselves in many dyscrasias.

Dr. G. employs veratrine internally in doses of the sixteenth of a grain twice a day, increasing it gradually, according to the susceptibility, the early or late occurrence of nausea or diarrhoea, to four pills and over. Externally, he prescribes 5-20 grains of it to be rubbed up with an ounce of lard. As, however, it is very expensive, and we can never reckon upon its acting very rapidly, he orders generally half to one grain of veratrine to ten to fifteen grains of lard, which may be used in two or three applications, and repeated if necessary. He always uses it with lard in children, and in women with delicate skins, or after recent inflammatory rheumatism, in which we are never sure, if it will, the part is in condition to bear it, even though fever and inflammation appear to be removed. Riecke recommends the veratrine to be dissolved in alcohol, and then mixed with the lard—a practice which M. G. approves of. In chronic cases, on the other hand, and when there is a torpid condition of the skin, M. G. employs a spirituous embrocation, which, indeed, he found effectual in much weaker doses of from 2-10 grains to the ounce. The rubbing in should be continued, according to the condition, ten to fifteen minutes, and until a pricking and burning sensation is experienced.

M. Gebhard has made advantageous use of this remedy in rheumatism, both

acute and chronic—in the former, when, after the subsiding of the fever, there remain gastric derangements and local pains which will not yield to the usual treatment, and in the latter, after long perseverance and when there is no alteration of structure. Since 1839, says M. G., I have treated about sixty cases of rheumatism of all kinds, among which only four did not experience a radical cure; and in these marked enlargements and ankylosis had occurred, and the patients, partly from impatience and partly from fear of the expensive medicine, sought other assistance. In all the other cases, there resulted partly an entire cure of the most unpromising cases, partly decided relief. I have never employed veratrine internally in rheumatism, only externally. For the most part, I have abstained from all internal remedies: in some cases only assisting the cure by means of colchicum, iodine—especially the latter, in combination with veratrine, in chronic swellings of the joints without pain, in which this treatment was very serviceable. In neuralgia, M. G. sustains the opinion of Turnbull, that veratrine is especially useful in those cases in which the pain is not fixed in any one point, but spreads itself over the extremities of the nerves, as is the case in rheumatic prosopalgia.

In all, nine cases of prosopalgia have been treated by him with veratrine, four of which came under his care from the commencement of the attack, and were cured in from three to four days—the longest being seven to eight days—by means of veratrine rubbings. In two epidemics of whooping-cough, M. G. found that by rubbing in veratrine over the vertebræ of the neck and upper part of the back, there was great relief experienced where the second stage was protracted in its length. The striking influence of veratrine on the urinary secretions has often been ascertained in general dropsy, as well of the skin as of the cavities, especially in cases where no organic disease was apparent: even where this was evident, M. G. has often observed benefit, even if only of a palliative character. The cases treated were some of them the result of cold, causing, instead of inflammatory rheumatism, an enormous exudation into the serous cavities, and other secondary dropsies after previously existing inflammations. But more marked effects were observed in dropsies consequent upon long and exhausting disease; as, in particular, after a severe typhoid epidemic he observed.

The last disease noticed, and that to which M. G. first directed his experiments with respect to the employment of veratrine, is paralysis. In three cases of paralysis of the facial nerve, consequent upon colds, the frictions with veratrine were employed with the most complete success, the power being restored in from six to thirteen days. In two cases of paralysis after apoplexy, one in a man 74 years old and the other in a man 62 years old, after all evidences of congestion and irritation had been removed, by means of antiphlogistic treatment, and the paralysis alone was left, M. G. employed the veratrine frictions with entire relief of this symptom. These are the only instances of this affection which he has as yet had an opportunity to treat; but they were so successful that he would recur to the use of this medicine whenever a similar condition presented itself to his observation.—*Zeitschrift für Therapie et Pharmacodynamik*. Freiburg, Dec. 1844. No. 3.

13. *New Caustic formed by a mixture of Saffron and Sulphuric Acid*.—After a number of experiments on various kinds of potential caustics, M. VELPEAU has lately adopted one which seems to give very excellent results. It is prepared by concreting sulphuric acid into the consistence of a ductile paste by means of a sufficient quantity of saffron, which, without destroying its caustic qualities, prevents the acid from spreading beyond the limits to which it has been applied.

"This substance being carbonized by the acid, there remains a beautiful black paste, which resembles China ink or dry blacking. This paste is placed in an earthenware pot; the surgeon takes a portion of it on a spatula, and spreads it on the affected part, like ointment, a little hard; he then lays on a layer of it from two to four millimetres in thickness, more or less; rounds its edges, and circumscribes its limits to the exact extent of the disease; he then leaves it thus exposed to the air till such time as it dries. A crust soon forms, which is to be covered with a compress and a bandage. The caustic which remains in the pot will not keep for any length of time, the sulphuric acid attracting readily the moisture

from the air; but that which has been applied upon the flesh forms a hard crust, resounding like a piece of charcoal, perfectly dry, circumscribed in its limits, and of a depth equal to the thickness of the layer which was applied.

"This eschar began to separate between the eighth and tenth day, in a patient who had only been subjected to a slight application. In a patient affected with scirrhus, to whom more than a *hundred grammes* of the caustic ointment had been applied, it was satisfactorily seen that none of the phenomena of absorption occurred; and that, besides, the caustic had the effect of completely removing the disgusting smell which the cancer had hitherto had, and which annoyed both the patient and his neighbours. The cauterized tissues exhaled even an odour rather agreeable than fetid. Till new facts permit us to appreciate better the value of this new agent, we think it proper to direct attention to three important conditions which it presents, viz.:—

"1. The exact circumscribing of its action to the limits traced by the ointment; 2. The quick throwing off of the slough; and, 3. The absence of serious absorption."—*Northern Journ. of Med.*, Sept. 1845, from *Annales de Thérapeutique*.

### MEDICAL PATHOLOGY AND THERAPEUTICS AND PRACTICAL MEDICINE.

14. *Survivance for Forty days after the Separation of forty-four inches of Intestine.*—This remarkable case is recorded by Mr. HILL in the *Monthly Journal of Medical Science* for August last. The subject of it was a lady sixty-five years of age, who had been long in delicate health and a sufferer from constipation. Whilst on a visit to her friends she neglected the use of laxatives. She became constipated on the 18th of August. This was followed after eight days by severe pain in the abdomen, tympanitis, the rejection of every kind of food, &c. The constipation persisted in spite of medicine until the 31st August, when she had several copious and very offensive motions, which relieved tenderness of abdomen, &c. Diarrhœa succeeded, and on the 5th September Mr. H. was sent for in consequence of something protruding from the rectum. On examination Mr. H. found a shriveled substance about four inches long hanging down and attached to something soft within the sphincter. Gentle and continued traction brought away a portion of the entire intestine, which, with what had been protruded, measured forty-four inches;—it was so decayed as to taint the whole apartment with its putrid odour. The tendency to diarrhœa continued for ten days after this, but was kept in check by opiate enemata. A little food was taken with relish, and the patient complained only of debility; she became extremely emaciated, and on the 14th of October, forty days after the separation of the portion of intestine, she sunk exhausted.

On examination, the intestines were traced from the stomach downwards, and found healthy onwards to the colon, which, from the left iliac region upwards to the lower rib, had formed strong adhesions to all the neighbouring parts: it was dark and fragile at its lower part. A large cavity was formed, on a line with and above the *os ilium*, by adhesions: it was full of feculent matter—the upper part of the rectum and the lower portion of the colon opened into this cavity. The sigmoid flexure was wholly wanting; and the colon, from the caput cœcum to its termination in the cavity, as above described, measured only fourteen inches.

"In this highly interesting case," Mr. Hill remarks, "involution of the bowels must have taken place, leading to amputation and throwing off of the sigmoid flexure. The adhesions formed a strongly walled cavity, which prevented the escape of feculent matter into the general cavity of the abdomen. The ingesta had traversed the intestines in the natural way; and first filling completely the cavity described, had then forced their way down through the rectum. This is obviously the explanation of the motions being latterly so regular and so apparently natural."

15. *Varicose Tumour of the Pia Mater.*—M. BAILLARGER presented to the Medical Society of Paris a pathological specimen, exhibiting an example, probably unique